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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,099	09/03/2003	Yoshiaki Tanaka	10844-31US (203055 (C-1))	4884

570 7590 09/27/2006

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EXAMINER	
ALEXANDER, MICHAEL P	

ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 09/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/654,099	TANAKA, YOSHIAKI	
	Examiner	Art Unit	
	Michael P. Alexander	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-58* is/are pending in the application.

4a) Of the above claim(s) *19-22 and 39-58* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-18 and 23-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim(s) 3-58 is/are pending. Claims 19-22 and 39-58 are withdrawn from consideration.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 31 August 2006 has been entered.

Priority

The Examiner notes that the filing of the translation of the foreign priority documents traverses the rejection based on Hara.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 3-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (JP 13-266724).

Regarding claims 3-4, Tanaka teaches (0010) an alloy type thermal fuse comprising a thermal fuse element having an alloy composition in which Sn is 40 to 46 weight percent, Bi is 7 to 12 weight percent, Ag is 0.5 to 3.5 weight percent, remainder In. Tanaka does not necessitate the addition of any element whose use is prohibited due to its harmful effects on a living body. The amounts of Bi, Ag and In overlap with the claimed ranges, which is prima facie evidence of obviousness. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art to select the desired amount of Bi, Ag and In from the ranges disclosed by Tanaka because Tanaka teaches the same utility throughout the disclosed ranges.

With respect to the Sn range in claims 3-4, the Examiner notes the closeness of the range disclosed by Tanaka (i.e. 40 to 46%) to the claimed range (i.e. greater than 46% to 70%). It has been held that "a prima facie case of obviousness exists when the claimed range and the prior art range do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties". In re Peterson, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). It would have been obvious to one of ordinary skill in the art to select the an amount of Sn slightly greater than 46 weight percent because one skilled in the art would have expected them to have the same properties as an alloy having 46 weight percent Sn.

Regarding claims 5-6, the alloy of Tanaka would inherently have inevitable impurities.

Regarding claims 7-10, Tanaka teaches (0017-0019, Fig. 4) connecting the fuse element between lead conductors, at least a portion of each of the lead conductors is bonded to said fuse element is covered with a silver paste (i.e. film).

Claims 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka as applied to claims 3-10 above, and further in view of Ishioka (JP403110732A).

Regarding claims 11-18, Tanaka teaches (Fig. 3, 0018) that lead conductors are bonded to ends of the fuse element, respectively, a flux is applied to said fuse element, said flux-applied fused element is passed through a ceramic tube (i.e. cylindrical case), and gaps between ends of the ceramic tubing and the lead conductors are sealingly closed. Tanaka does not specify the ends of the lead conductors have a disk-like shape, and ends of the fuse element are bonded to front faces of the disks.

Still regarding claims 11-18, Ishioka teaches (abstract) providing lead conductors with a disk-like shape at the ends of the lead conductors and bonding the fuse elements to the front faces of the disks in order to prevent flux from adhering to the ends of the cylindrical case and to achieve quick separation when the fuse is activated. It would have been obvious to one of ordinary skill in the art to modify the method of Tanaka by providing lead conductors with a disk-like shape at the ends of the lead conductors and bonding the fuse elements to the front faces of the disks in order to prevent flux from

adhering to the ends of the cylindrical case and to achieve quick separation when the fuse is activated as taught by Ishioka.

Claims 23-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka or Tanaka in view of Ishioka as applied to claims 3-18 above, and further in view of Cole (GB 2028608 A).

Regarding claims 23-38, the aforementioned mentioned references do not specify providing a heating element for fusing off said fuse element. However, Cole teaches (abstract) providing a resistor to blow a thermal fuse in order to terminate heating in a heating circuit for an electric blanket. It would have been obvious to one of ordinary skill in the art to modify the aforementioned reference by providing a resistor to blow a thermal fuse in order to terminate heating in a heating circuit for an electric blanket as taught by Cole.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 3-18 and 23-38 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 45, 47, 49, 51, 53, 55, 57, 59, 61, 63, 65, 67, 69, 71, 73; 75, 77, 79, 81 and 83 of copending Application No. 10/656,561. Although the conflicting claims are not identical, they are not patentably distinct from each other because the copending application teaches an alloy type thermal fuse comprising a thermal fuse element having an alloy composition in which Sn is 25 to 60 weight percent, Bi is larger than 12 to 33 weight percent, In is 20 to 50 weight percent, and Ag is 0.1 to 3.5 weight percent. The amounts of Sn, In and Ag overlap with the claimed ranges, which is prima facie evidence of obviousness. See MPEP 2144.05 I. Furthermore, the claims of Tanaka teach all the structural limitations. With respect to the Bi range, the Examiner notes the closeness of the range of the copending application (i.e. larger than 12 to 33%) and the instant claimed range (i.e. 1 to 12%). It has been held that "a prima facie case of obviousness exists when the claimed range and the prior art range do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties". In re Peterson, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). It would have been obvious to one of ordinary skill in the art to select the an amount of Bi of 12 weight percent because one skilled in the art would have expected them to have the same properties as an alloy having slightly greater than 12 weight percent Bi.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Applicant's arguments with respect to claims 3-58 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Alexander whose telephone number is 571-272-8558. The examiner can normally be reached on M-F 10:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V. King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mpa

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